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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,593	11/20/2001	Jun Ikeda	M2047-31	1532

7278 7590 05/26/2004

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EXAMINER

LAO, LUN YI

ART UNIT	PAPER NUMBER
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2673

9

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/989,593

Applicant(s)

IKEDA ET AL.

Examiner

Lao Y Lun

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 9-11 and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman et al(5,394,518) in view of Masterson(5,469,190).

As to claims 1, 9, 11 and 18-22, Friedman et al teach a display device comprising a pseudo-tone processing means for receiving inputs of display data and for color-reducing each RGB component of the display data by pseudo-tone processing to produce color-reduced display data(e.g. for reducing 24 bits to 15 bits)(see figure 8 and column 15, lines 5-30) and a drive means for driving said display device(see column 1, lines 25-31; column 15, lines 63-68; column 16 and column 17, lines 1-6). Friedman et al teach the reduction RGB component is

G component(6 bits) > R component(5 bits) > B component(4 bits)(see column 15, lines 5-10).

Friedman et al fail to disclose a frame memory for storing color-reduced display data.

Masterson teaches a display unit comprising a frame memory(18) for storing color-reduced display data(see figure 4 and column 4, lines 30-49). It would have been obvious to have modified Friedman et al with the teaching of Masterson, so the reduced display data could be temporarily stored in a memory and output to the memory when the display data need to present on a display.

As to claims 9 and 18-22, Friedman et al teach at least one bit conversion table containing tone corrections that include least significant bits(see figure 8 and column 16, lines 36-42).

As to claims 18-22, Friedman et al as modified by Masterson teach a tone correction means(22) located downstream from the frame memory(18) (see Masterson's figure 4 and column 4, lines 30-48).

3. Claims 3-8 and 12-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Friedman et al(5,394,518) in view of Masterson(5,469,190) and Cowlishaw(4,725,828).

As to claims 3-8 and 12-17, Friedman et al as modified fail to disclose the tone number of the G component after color reduction is from about two to about 20 times the tone number of the B component and $R:G:B=2:4:1$ or $R:G:B=16:32:8$.

Cowlshaw the tone number of the G component after color reduction is from about two to about 20 times the tone number of the B component and $R:G:B=2:4:1$ or $R:G:B=16(2^4):32(2^5):8(2^3)$ (5 bits for Green, 4 bits for Red and 3 bits for Blue) (see figure 4; column 2, lines 6-16 and column 6, lines 22-42). It would have been obvious to have modified Friedman et al as modified with the teaching of Cowlshaw, since Cowlshaw disclosed the bit number of RGB data and the ratio of the RGB data would be changed (see column 2, lines 6-16 and column 6, lines 22-42).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bedell et al(4,970,663) teach a method for compressing 15 bits of RGB data into 8 bits of RGB data which have 3 bits of red, 3 bits of green and 2 bits of blue.

Foster(6,052,113) teaches memory controllers(114A, 114B) for compressing 15 bits of RGB data into 8 bits of RGB data which have 3 bits of red, 3 bits of green and 2 bits of blue.

5. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

6. Any inquiry concerning this communication or earlier communications from the

Art Unit: 2673

examiner should be directed to Lun-yi, Lao whose telephone number is (703) 305-4873.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached at (703) 305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

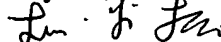
or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

May 13, 2004


Lun-yi Lao

Primary Examiner